April 14, 1925. 1,533,378

J. F. BUNKERS

SWINGING CLOSURE

Filed May 14, 1923

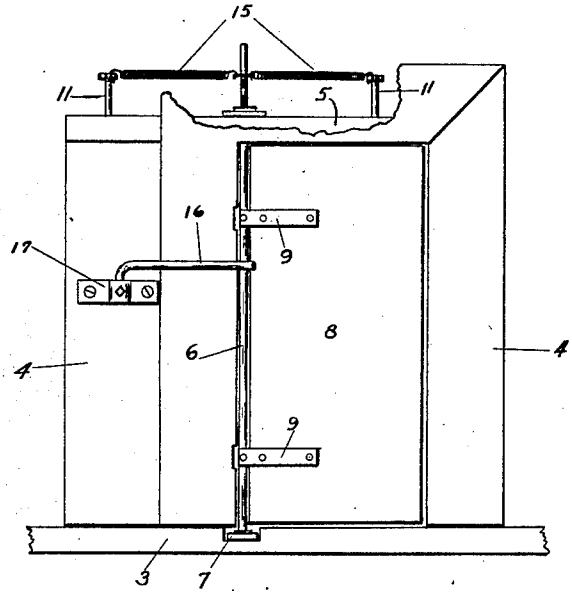


Fig. 1.

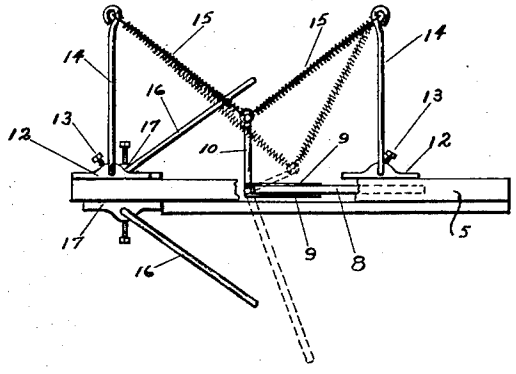


Fig. 2.

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UNITED STATES PATENT OFFICE.

JOSEPH F. BUNKERS, OF REMSEN, IOWA.

SWINGING CLOSURE.

Application filed May 14, 1923. Serial No. 638,778.

To all whom it may concern:

Be it known that I, JOSEPH F. BUNKERS, a citizen of the United States, and a resident of Remsen, in the county of Plymouth and State of Iowa, have invented certain new and useful Improvements in Swinging Closures, of which the following is a specification.

My invention has for its object the production of a door particularly adapted for hog houses and including certain novel features of construction and arrangement of parts whereby the door is normally closed yet may be readily opened in either direction by the animals to permit their entrance and exit into and from their house.

Another object of the invention is the production of a device of this class which is simple and inexpensive in construction yet sturdy, thorougly efficient and dependable in operation.

With these and other objects in view, the invention, consisting in the construction, combination and novel arrangement of parts, may be clearly understood from the following description reference being had to the accompanying drawing which forms a part of this application and in which like characters of reference indicate corresponding parts throughout both views, of which,—

Fig. 1 is a front elevation of a device constructed in accordance with my invention, a part being cut away, and

Fig. 2 is a plan of the same with a part cut away.

Referring to the illustrations, I provide a frame base or sill, 3, having mounted thereon a door frame including side members, 4, and an upper cross member, 5. Within the above-described frame and adjacent one side thereof I mount an upright rod, 6, rotatably supported in a step bearing, 7, embedded in the sill, 3, and projecting through the frame member, 5. To the said rod, 6, is rigidly secured a door, 8, by cleats, 9, or otherwise. The upper end of the rod, 6, is provided with a crank arm, 10, extended substantially at right angles to the frame of the door, and on opposite sides of the door frame are mounted brackets, preferably including upright rods, 11, supported in suitable bearings, 12, mounted on the door frame and held adjustably therein by set screws, 13, threaded into the bearings. The upper ends of said rods, 11, are provided with lateral arms, 14, the free ends of which are respectively connected with the crank arm, 10, by retracting springs, 15. By adjusting the arms, 14, relatively toward or from each other the tension of the springs, 15, is so equalized as to hold the door normally closed and yet permit its being opened in either direction by pressure of the animal thereagainst. Stops may be provided for limiting the swing of the door which may consist of horizontal diagonally-disposed rods, 16, adjustably supported in suitable bearings, 17, mounted on the door frame on opposite sides of the door.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States, is,—

1. In a device of the class described, a door frame, a rotatable upright within and adjacent one side of the frame, a door fixed to the upright, an arm on the upright extending at substantially right angles to the door, bracket arms on opposite sides of the frame, and retracting springs between said first-mentioned arm and the bracket arms.

2. In a device of the class described, a door frame, a rotatable upright within and adjacent one side of the frame, a door fixed to the upright, an arm on the upright extending at substantially right angles to the door, bracket arms on opposite sides of the frame, and retracting springs between said first-mentioned arm and the bracket arms, at least one of said bracket arms being adjustable toward and from the other to equalize the tension of the springs.

3. In a device of the class described, a door frame, a sill at the bottom thereof, an upright shaft within and adjacent one side of the frame rotatably suported by a step bearing on the sill, and projected through the top of the frame, a door fixed to the shaft, a crank arm on the upper end of the shaft disposed at substantially right angles to the door, brackets on opposite sides of the frame, and retracting springs between the crank arm and the brackets.

4. In a device of the class described, a door frame, a sill at the bottom thereof, an upright shaft within and adjacent one side

of the frame rotatably supported by a step bearing on the sill, and projected through the top of the frame, a door fixed to the shaft, a crank arm on the upper end of the shaft disposed at substantially right angles to the door, brackets on opposite sides of the frame, and retracting springs between the crank arm and the brackets, at least one of said brackets being adjustable toward and from the other to equalize the tension of the springs.

In testimony whereof, I have hereunto set my hand this 20th day of April, 1923.

JOSEPH F. BUNKERS.